PRO **SERIES**

INSTALLATION GUIDE

PRO ***70*** *PLUS™ - 50 Ohm*

In-Building
SmarTech Ⅲ®
Cellular Signal Boosters

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Appearance of device and accessories may vary.

Note: This manual contains important safety and operating information. Please read and follow the instructions in this manual. Failure to do so could result in damage to your Signal Booster.

CellPhone SignalBooster .US

How a Cellular Booster Improves Indoor Signals

Wilson cellular signal booster systems work as follows: an outdoor antenna placed on a building where some cell signal is present, (ideally on a roof or pole), receives and sends that weak signal via coax cable (like used in satellite TV installs) to a signal booster located indoors. That weak signal is amplified by the booster and delivered via coax cable to an inside antenna(s) which rebroadcasts the amplified signal within one or several areas where improved signal is required. Signals from indoor cell device(s) are likewise picked up by the inside antenna(s), amplified by the signal booster and transmitted back to the cell tower via the outside antenna. The improved signals result in reliable cellular connections for indoor users.

About Gain and Improved Signal Area

The less signal strength at the outside antenna's location and/or the greater the coverage need, the more gain will be required. Conversely, the more signal present outside, the greater the inside coverage area will be. Proper aiming of the outside antenna towards the source of the cell signal is also important. The gains of the outside and inside antenna, though reduced by losses from coax cable lengths, also affect area of improved coverage. Placement of the inside antenna is also a factor as they have directional characteristics. Inside wall materials will also affect indoor coverage area.

Another important factor affecting coverage area is inadequate isolation between outside and inside antenna(s). Wilson boosters are designed to reduce their internal gain in order to prevent any feedback "oscillations" which if unchecked, could affect nearby cell site operation. The LCD status display on the booster is used to determine if a booster is operating at optimal gain for each cellular band. Optimal gain can be achieved by increasing antenna separation, i.e. isolation, until the max gain is indicated. If attainable separation is limited by a building's layout, gain will suffer. A nearby cell site, even if not providing service to a user, can also cause the booster's automatic network protection circuitry to reduce gain or even turn off one or more of the booster's bands so as to prevent signal overload to the nearby site. The display on the booster can also be used to determine if this condition is taking place. Refer to pages 9-11 for explanation of the booster status display.

Inside this Package *Note: Kits may contain different accessories*

To purchase Expansion Kits call Wilson Electronics Sales Department at: **800-501-3153**

Signal Booster

Wide Band Directional Antenna 75' LMR400 Cable **(314411-40075)**

Wide Band Panel Antenna 60' LMR400 Cable **(311135-40060)**

2' LMR400 Cable **(952302)**

AC/DC Power Supply 12V/3A **(859900)**

Lightning Surge Protector **(859902)**

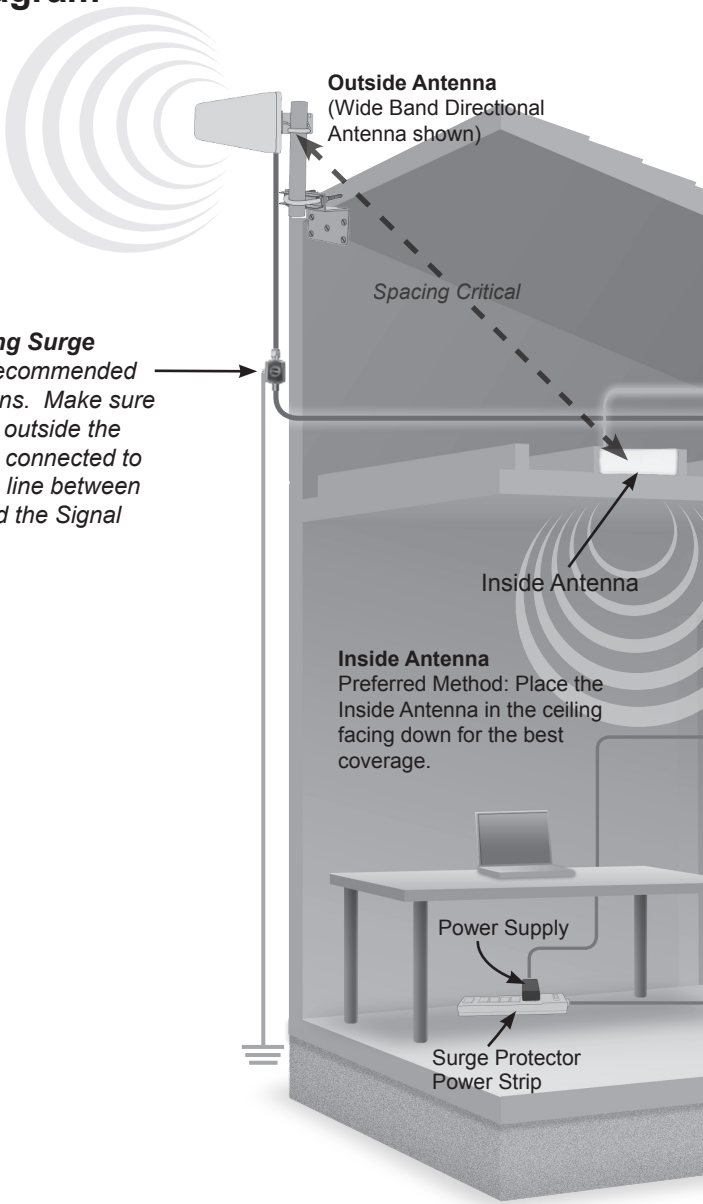
For additional antenna options see pages 14 & 15.

Install Overview

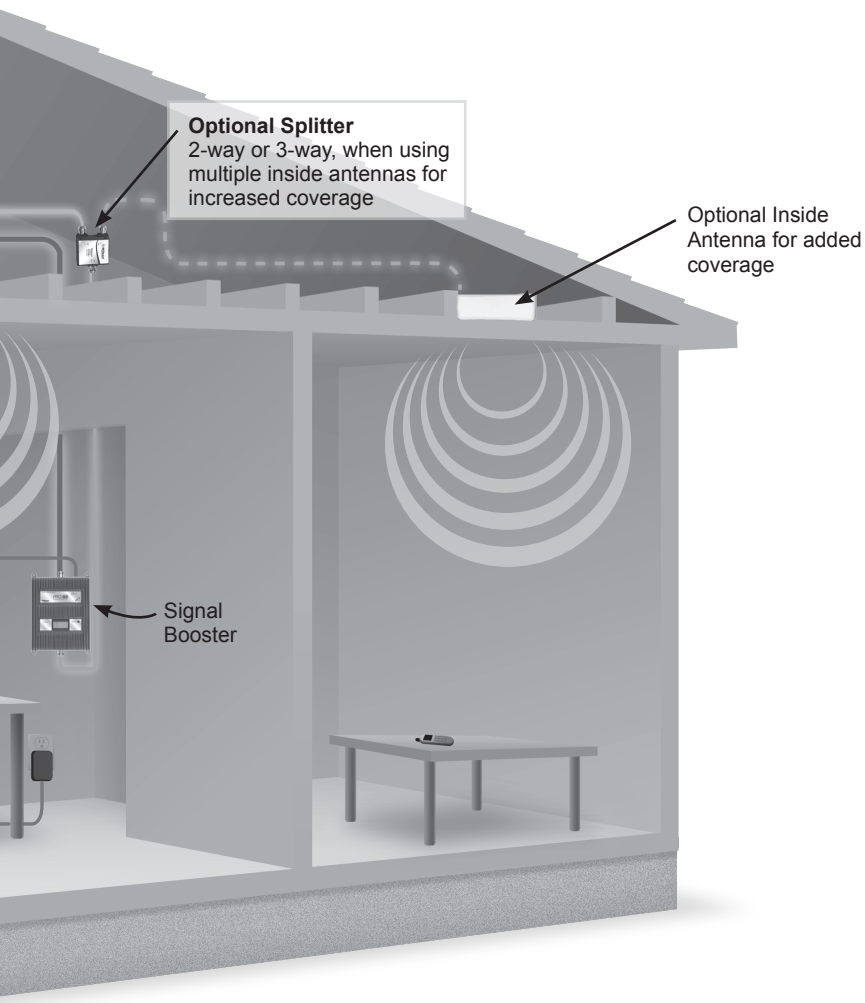
Refer to Installation Diagram on page 3 & 4. Contact Wilson Electronics Technical Support Team with any questions at 800-501-3153.

1. Select a location on the roof or outside of the building to install the outside antenna. Refer to pages 3 & 5.
2. Select a location to install the Signal Booster that is away from excessive heat, direct sunlight or moisture, and has adequate ventilation. Airtight enclosures are not recommended. Booster should be as close to the outside antenna as possible in order to minimize losses from cable length to outside antenna.
3. Connect the cable from the outside antenna to the signal booster's "outside antenna" connector. Refer to page 6 for more information on running cable. Lightning Surge Protection is recommended for all in-building installations. Refer to pages 3 & 6.
4. Select a location for the inside antenna. Try to choose a position in the center of the area needing improved signal. Keep in mind that proper inside antenna to outside antenna isolation is necessary for the system to function properly. This may require as much as **50 to 75 feet of horizontal separation** from the outside antenna. Vertical separation also helps increase isolation. Alternate means of isolation are possible. If physical separation is not possible, please contact Wilson Electronics Tech Support at 800-501-3153 for suggestions on alternate methods to achieve isolation.
5. Connect the cable from the inside antenna to the signal booster's "inside antenna" connector. Refer to page 6 for more information on running cable. Keep cable runs as short as possible to reduce signal loss in the system.
6. Before powering up the signal booster, verify that both the outside antenna and the inside antenna are connected correctly, and check that all connections are tight. ***Note:*** *Be careful when plugging the connectors in so as not to bend the center pins on the connectors.*
7. Power on the signal booster by plugging in the included power supply. If the lights are not green, please refer to pages 10-11.

Installation Diagram



***Note:** A Wilson **Lightning Surge Protector (859902)** is recommended for all building installations. Make sure the protector is installed outside the building at point of entry connected to a suitable ground and in line between the Outside Antenna and the Signal Booster.*


Optional Splitter
2-way or 3-way, when using multiple inside antennas for increased coverage
Optional Inside Antenna for added coverage
Signal Booster

Selecting a Location for the Outside Antenna

The outside antenna must be mounted at a location outside of the home or building, where the strongest cell signal is present. This can be accomplished by using the Wilson Signal Meter. Alternatively, a cell phone in test mode can be used for finding the area around the building with the strongest signal.

Mount the outside antenna as high as possible facing towards the suspected location of the cell tower and pointing away from the expected location of the inside antenna(s).

Outside Antenna Installation

The antenna should be mounted as shown in Figure 1. The mounting bracket, included with antenna, is adjustable and will accommodate pipe diameters from 1.25 inches to 2 inches (pipe sold separately #901117). Mount the antenna so that there is at least 3 feet of clearance in all directions around it. Make sure the antenna is not pointing across your own roof or at the inside antenna as this will cause the cell site protection circuitry to shut down the signal booster.

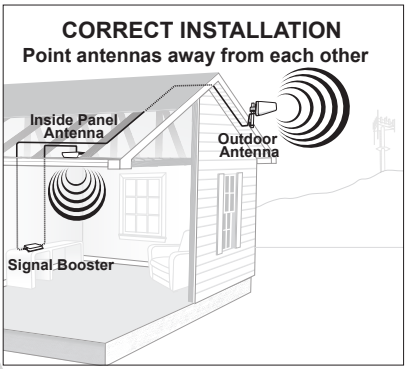


Figure 1

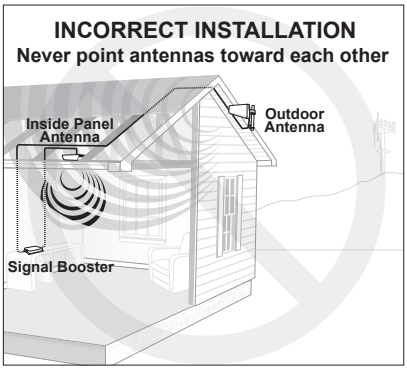


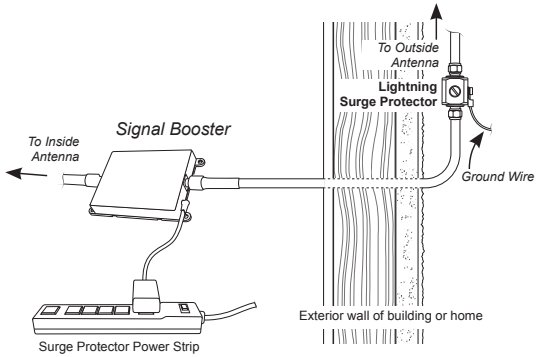
Figure 2

Contact CellPhoneSignalBooster.us Customer Support Team with any questions at 800-501-3153 or email: sales@cellphonesignalbooster.us Mon.- Fri. Hours: 7 am to 6 pm MST.

Installing Lightning Protection

⚠ Warning: Lightning protection is recommended for all installations (#859902-50 Ohm, shown below). Take extreme care to ensure that neither you nor the antenna comes near any electric power lines.

Install the Lightning Surge Protector (LSP) outside, in line with the coax cable from the outside antenna, near where the coax cable from the outside antenna will enter the building. Connect the Outside antenna cable to one of the connectors of the surge protector. Connect the other connector on the LSP to the cable entering the building. Ensure the LSP is properly grounded as close to the LSP as possible (ground wire not included).



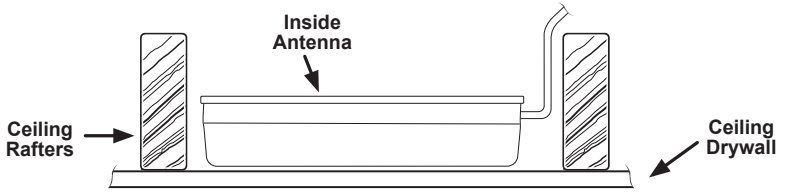
Running Outside Antenna Cable

If you are mounting the outside antenna to the outside wall of your home or building, the simplest way is to run the cable on the outside of the wall and attach it to the exterior of your home or office. Then drill a hole through the wall where you want the cable to appear on the inside of the building. Before drilling, make sure that there are no electrical outlets, sewer or water pipes, or electrical wiring in the wall that you are about to drill through as this could potentially harm you or damage the building. ***Note:*** *Existing TV cables already being used for another purpose can not be shared with the cell booster installation.*

After drilling the required hole, run the cable through and seal it with cable bushings or a silicone-type sealant to enclose the hole that you have created. In some instances, it may be possible to run the cable up into the fascia of the attic overhang. In this circumstance, the cable will be accessible in the attic for further routing.

Installing the Inside Panel Antenna(s)

Select a location for the inside antenna, preferably in the center of where the signal needs to be amplified. A minimum separation distance of 20 vertical feet and or 50 horizontal feet between the inside and outside antenna(s) may be necessary in order to achieve full booster gain and therefore maximum indoor coverage. If the amplifier can not be set to maximum gain as explained on page 10, you may need as much as 75 feet of horizontal separation, or mechanical isolation, between inside and outside antennas. Refer to installation diagram on pages 3 & 4.



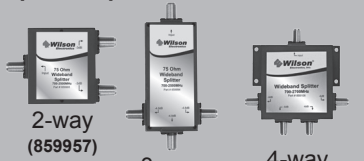
Some installations requiring signal improvement in far areas of larger homes or structures may require multiple inside antennas and splitter(s). For example if signal is improved in most areas of a structure, but yet there is weak signal In another area, the signal from the booster can be split to two or more separate indoor antennas by using a splitter (sold separately). Refer to the configuration on pages 3 & 4.

Additional Inside Panel Antenna w/ cable
sold separately

Multiple mounting options available

For additional antenna options see pages 14 & 15

Splitter Options:



Installing the Signal Booster

Select a location for the signal booster which is away from excessive heat, direct sunlight, moisture and is not subject to high temperatures. Do not place the signal booster in an air-tight enclosure. Recommended installation locations for in-building signal boosters are in a closet or on a shelf where power is available. Attic installations may expose the booster to high heat.

Note: *Do not install in areas subject to temperatures in excess of 150 °F.*

Note: *Maintain at least 6 inches of clearance from surrounding objects. Be careful when plugging the connector in so as not to damage the center pins on the connectors.*

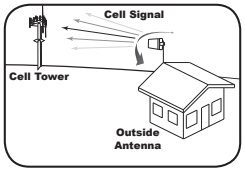
Run the outside antenna cable to the signal booster and attach it to the connector labeled “Outside Antenna” on the signal booster. Run the inside antenna cable to the signal booster and attach it to the connector labeled “Inside Antenna” on the signal booster.

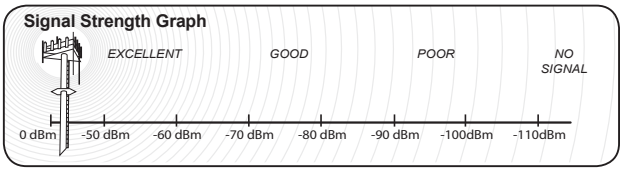
Note: *In order to abide by FCC regulations, cable lengths and antennas shipped as a kit with each booster must be used and not cut and shortened. Contact our tech support for cable kits to be used in situations requiring long cable runs.*

Note: *It is very important to power your signal booster using a surge protected AC power strip with at least a* ***1000 Joule rating.*** *Failure to do this will void your warranty in the event of a power surge or lightning strike*

Finding the Strongest Signal

When installing your signal booster’s outside antenna, aiming it towards the best signal source from your carrier is important. The best way of getting the strongest signal is to use the Wilson Signal Meter and accessory Directional Antenna (see outside antenna kit options on page 14), an alternate way is to have one person on the roof to rotate the outside antenna, which is connected to the signal booster. Turn the outside antenna about 45 degrees at a time, while the second person, inside the building, is watching the signal strength on a signal meter (preferred) or a phone in test mode. This allows you to read the signal strength from the cell tower. The phone should be in the test mode so the actual signal strength can be read, as bars are not the most accurate. Always make sure the person inside the building gives the signal strength time to register on the phone (at least 30 seconds for phone to update the signal reading).





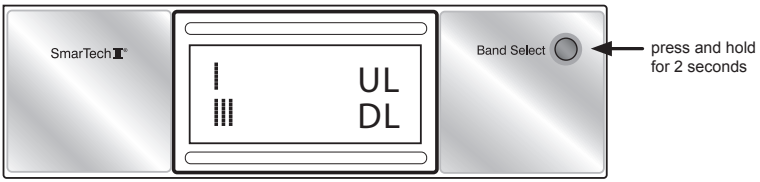
Signal readings usually appear as a negative number (for example, -86). The closer the number to zero, the stronger the signal (see Signal Srength Graph above).

Post Install Setup

The Pro Series booster is designed with advanced internal programming which allows it to automatically adjust itself for a variety of conditions and still boost weak signals. After completing the amplifier installation, the LCD display and push button on the lower panel of the Pro Series booster is used to verify the final gain that the booster adjusted itself to produce after antennas have been placed. The display can also be used (if necessary) to re-adjust antennas so the booster can produce maximum gain and therefore, coverage. The LCD screen will show status for each band and inform the installer if any bands may have had their gain reduced by the booster's internal programming. In addition, an indicator light on the booster's upper panel will help diagnose the overall status of the booster by glowing in different colors. This will be covered in the following page.

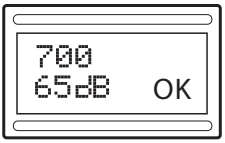
The Pro Plus booster has an integrated graphical meter to simplify the installation process. This is not to replace your signal meter - rather it complements the use. The bar graphs will assist in the aiming of your outside antenna - the biggest graph indicates that you are receiving the best overall signal.

To access this feature for the currently displayed frequency band, press and hold the "Band Select" button for 2 seconds. This will change the display to the UL/DL bar graph (uplink/downlink). A quick press of the button will move to the next band (briefly showing the band, before returning back to the bar graph); while holding the button will return to the regular display.

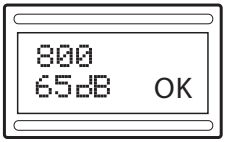


Understanding the LCD Screen

1. Four bands can be individually selected:
   - ⓐ The 700 MHz LTE Bands (B12/17 and B13)

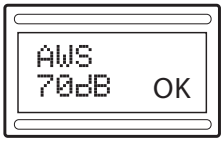


b The 800 MHz Band – Cell Band



c The 1900 MHz – PCS Band

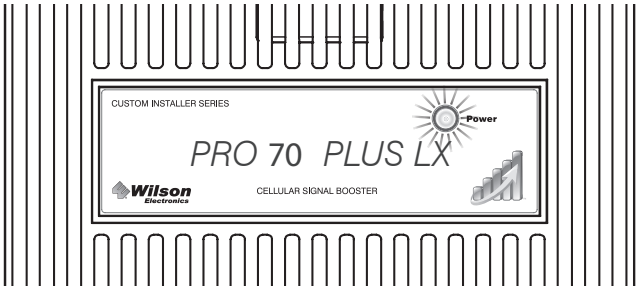
d 1700/2100 MHz – AWS Band



The single "BAND SELECT" button is used to scroll the display through the four cellular bands in order to verify that each band is functioning properly. An asterisk (located next to the band selected) will flash if one or more bands have been turned down/off by the boosters control circuitry due to strong nearby cell site signal overload ("OVL") and/or oscillation detection ("OSC") from antennas being too close. This is no cause for concern if the power light remains green and you are satisfied with your indoor coverage area.

Understanding the Upper Panel Indicator Light

As the LCD display is being toggled through the four cellular bands, the upper indicator light (power) will glow green, orange, or red on each selected band, depending on how the booster is functioning on each band as explained below.



Green indicates the unit is powered and working properly.

Red indicates the booster has shut down due to extreme oscillation (feedback).

Orange indicates the booster has shut down due to extreme signal overload. This is caused from being too close to a cell tower.

Fixing Red Light Issues

If the power light is red:

1. Make sure all connections are tight.
2. You need to increase the distance between the outside antenna and the inside antenna by moving them horizontally and/or vertically farther apart. After doing so, reset the booster by unplugging the power supply and then plugging it back in. If the light is green after separating the antennas, you have eliminated the problem.
3. If your coverage area is still too small after separating the antennas contact the Wilson Electronics Customer Support Team for assistance: 800-501-3153.

Fixing Orange Light Issues

If the power light is orange:

1. It will be necessary to turn the outside antenna away from the nearby cellular signal in small increments until the light turns green. If the Signal Booster will not respond, relocation of the outside antenna may be required.
2. If the light remains orange, contact the Wilson Electronics Customer Support Team for assistance at 800-501-3153.

About Wilson Electronics

Wilson Electronics, LLC has been a leader in the wireless communications industry for over 40 years. The company designs and manufactures Signal Boosters, antennas and related components that significantly improve cellular telephone signal reception and transmission in a wide variety of applications, mobile (marine, RV, vehicles) and in-building (home, office, machine to machine).

With extensive experience in antenna and Signal Booster research and design, the company's engineering team uses a state-of-the-art testing laboratory, including an anechoic chamber and network analyzers, to fine-tune antenna designs and performance. For its Signal Boosters, Wilson Electronics uses a double electrically shielded RF enclosure and cell tower simulators for compliance testing.

Wilson Electronics Signal Boosters feature patented SmarTech Ⅲ® that enables them to automatically adjust their power based on cell tower requirements. By detecting and preventing oscillation (feedback), signal overload and interference with other users, these SmarTech Ⅲ® Signal Boosters improve network cell phone areas without compromising carrier systems.

All products are engineered and assembled in the company's 100,000 square-foot headquarters in St. George, Utah. Wilson Electronics has product dealers in all 50 states as well as in countries around the world.

Warnings and Recommendations

⚠ **WARNING:** To uphold compliance with network protection standards, all active cellular devices must maintain at least 6 feet of separation distance from Panel and Dome antennas.

⚠ **WARNING:** Connecting the Signal Booster directly to the cell phone with use of an adapter will damage the cell phone.

⚠ **WARNING:** Use only the power supply provided in this package. Use of a non-Wilson Electronics product may damage your equipment.

⚠ **WARNING:** The Signal Booster unit is designed for use in an indoor, temperature-controlled environment (less than 150 degrees Fahrenheit). It is not intended for use in attics or similar locations subject to temperatures in excess of that range.

⚠ **WARNING:** Warning: The Outside Antenna must be installed no higher than 10 meters (31'9") above ground.

⚠ **WARNING:** Take care to ensure that neither you nor the pole comes near any power lines during installation.

⚠ **RF SAFETY WARNING:** Any antenna used with this device must be located at least 8 inches from all persons.

This is a CONSUMER device.

BEFORE USE, you **MUST REGISTER THIS DEVICE** with your wireless provider and have your provider's consent. Most wireless providers consent to the use of signal boosters. Some providers may not consent to the use of this device on their network. If you are unsure, contact your provider.

You **MUST** operate this device with approved antennas and cables as specified by the manufacturer. Antennas **MUST** be installed at least 20 cm (8 inches) from any person.

You **MUST** cease operating this device immediately if requested by the FCC or a licensed wireless service provider.

WARNING. E911 location information may not be provided or may be inaccurate for calls served by using this device.

Note: *Dome Antennas are not recommended with these Signal Booster(s).*

Note: *For a complete list of antennas and cables approved for use with these boosters see pages 14 & 15.*

This device complies with Part 15 of FCC rules. Operation is subject to two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by Wilson Electronics could void the authority to operate this equipment.

Inside Antenna Expansion Kit

(contact Wilson Technical Support for assistance)

Kit 309900-50N
- 2 - Wall Panel antennas
- 1 - 50 ohm 3-Way Splitter

Kit 309905-50N
- 3 - Wall Panel Antennas
- 3 - 2-Way 50 Ohm Splitters

Kit 309902-75F
- 2 - Wall Panel Antennas
- 1 - 3-Way 75Ohm Splitter

Kit 309903-75F
- 3 - Wall Panel Antennas
- 3 - 2-Way 75Ohm Splitters

Kit 309904-75F
- 1 - Wall Panel Antenna
- 1 - 2-Way 75 Ohm Splitter

Inside Antenna Kits

(contact Wilson Technical Support for assistance)

Kit 311155-0630
- 75 Ohm Wall Mount Panel Antenna
- 30' RG6

Kit 301121-40010
- 50 Ohm Dome Antenna
- 10' LMR400

Kit 301151-0610
- 75 Ohm Dome Antenna
- 10' RG6 Cable

Kit 311135-5820
- 50 Ohm Wall mount Panel Antenna
- 20' RG58 Cable

Kit 311135-40060
- 50 Ohm Wall Mount Panel Antenna
- 60' LMR400 Cable

Kit 301151-1110
- 75 Ohm Dome Antenna
- 10' RG11 cable

Kit 311155-1150
- 75 Ohm Wall mount Panel Antenna
- 50' RG11 Cable

50 Ohm Outside Antenna Kits

(contact Wilson Technical Support for assistance)

Kit 314453-5825
- 50 Ohm Pole Mount Panel Antenna
- 25' RG58 Cable

Kit 314411-5825
- 50 Ohm Wide Band Directional
- 25' RG58 Cable

Kit 301111-5850
- Yagi Directional Antenna
- 50' RG58 Cable

Kit 311129-5840
- 800 MHz Yagi Directional
- 40' RG58 Cable

Kit 311203-5820
- Omni-Directional antenna
- 20' RG58 Cable

Kit 311124-5830
- 1900 MHz Yagi antenna
- 30' RG58 Cable

Kit 311203-40020
- Omni-Directional antenna
- 20' LMR400 Cable

Kit 301111-400170
- Yagi Directional w/ N-Female
- 170' LMR400

Kit 311124-400100
- 1900 MHz Yagi Directional
- 100' LMR400 Cable

Kit 311129-400100
- 800 MHz Yagi Antenna
- 100' LMR400 Cable

Kit 314411-40075
- 50 Ohm Wide Band Directional Antenna
- 75' LMR400 Cable

Kit 314453-40075
- 50 Ohm Pole Mount Panel Antenna
- 75' LMR400 Cable

75 Ohm Outside Antenna Kits

(contact Wilson Technical Support for assistance)

Kit 301111-0675
- Yagi Directional Antenna
- 75' RG6 Cable
- N-Male to F-Female adapter

Kit 311201-0620
- Omni Directional w/ F-Female
- 20' RG6 Cable

Kit 311129-0660
- 800 MHz Yagi Directional
- 60' RG6 Cable
- N-Male to F-Female adapter

Kit 311124-0650
- 1900 MHz Yagi Directional
- 500' RG6 Cable
- N-Male to F-Female adapter

Kit 314473-0640
- 75 Ohm Pole Mount Panel Antenna
- 40’ RG6 Cable

Kit 311141-0620
- 75 Ohm Grey Brick Antenna
- 20’ RG6 Cable

Kit 301111-11140
- Yagi Directional Antenna
- 140’ RG11 Cable
- N-Male to F-Female adapter

Kit 311201-1120
- Omni Directional w/ F-Female
- 20’ RG11 Cable

Kit 311129-11110
- 800 MHz Yagi Directional
- 110’ RG11 Cable
- N-Male to F-Female adapter

Kit 311124-1180
- 1900 MHz Yagi Directional
- 80’ RG11 Cable
- N-Male to F-Female adapter

Kit 314473-1175
- 75 Ohm Pole Mount Panel Antenna
- 75’ RG11 Cable

Kit 314475-0630
- 75 Ohm Wide Band Directional
- 30’ RG6 Cable

Kit 314475-1175
- 75 Ohm Wide Band Directional
- 75’ RG11 Cable

Kit 311141-1120
- 75 Ohm Grey Brick Antenna
- 20’ RG11 Cable

Mini-Mag Outside Antenna

(contact Wilson Technical Support for assistance)

301126 w/12.5 RG174 cable-SMA

30-Day Money-Back Guarantee

All Wilson Electronics products are protected by Wilson Electronics 30-day money-back guarantee. If for any reason the performance of any product is not acceptable, simply return the product directly to the reseller with a dated proof of purchase.

3-Year Warranty

Wilson Electronics Signal Boosters are warranted for three (3) years against defects in workmanship and/or materials. Warranty cases may be resolved by returning the product directly to the reseller with a dated proof of purchase.

Signal Boosters may also be returned directly to the manufacturer at the consumer's expense, with a dated proof of purchase and a Returned Material Authorization (RMA) number supplied by Wilson Electronics. Wilson Electronics shall, at its option, either repair or replace the product. Wilson Electronics will pay for delivery of the repaired or replaced product back to the original consumer if located within the continental U.S.

This warranty does not apply to any Signal Booster determined by Wilson Electronics to have been subjected to misuse, abuse, neglect, or mishandling that alters or damages physical or electronic properties.

Failure to use a surge protected AC Power Strip with at least a 1000 Joule rating will void your warranty.

RMA numbers may be obtained by contacting Customer Support at 800-501-3153.

Disclaimer : The information provided by Wilson Electronics, LLC is believed to be complete and accurate. However, no responsibility is assumed by Wilson Electronics, LLC for any business or personal losses arising from its use, or for any infringements of patents or other rights of third parties that may result from its use.

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U.S. Patent Nos. – 7,221,967; 7,729,669; 7,486,929; 7,409,186; 7,783,318; 8,583,034; 8,583,033; 8,874,030 B2; 8,874,029 B2; 8,755,399; 8,849,187 B2; 8,639,180; D703, 181

Notes:

Notes:

Signal Booster Specifications

	Pro 70 Plus™-50 Ohm				
Model Number	U463027				
FCC ID	PWO460027				
IC ID	4726A-460027				
Connectors	N-Female				
Antenna Impedance	50 Ohms				
Frequency	698-716 MHz, 746-787 MHz, 824-894 MHz, 1850-1995 MHz, 1710-1755/2110-2155 MHz				
Passband Gain (nominal)	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**1700/2100MHz**	**1900MHz**
	56.0	55.2	58.9	60.7	60.7
20 dB Bandwidth (MHz)	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**1700/2100MHz**	**1900MHz**
Typical	29.9	28.6	38.7	82.6	81.8
Maximum	34.4	34.4	40.3	85.0	85.9
Power output for single cell phone (Uplink) dBm	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**1700MHz**	**1900MHz**
	20.4	20.82	25.16	23.0	21.42
Power output for single cell phone (Downlink) dBm	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**2100MHz**	**1900MHz**
	11.57	10.41	9.4	11.3	9.47
Power output for multiple received channels (Uplink) dBm					
No. Tones	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**1700MHz**	**1900MHz**
2	18.0	17.6	24.9	20.0	18.6
3	14.5	14.0	21.4	16.4	15.1
4	12.0	11.5	18.9	13.9	12.6
5	10.0	9.6	16.9	12.0	10.7
6	8.4	8.0	15.3	10.4	9.1
Power output for multiple received channels (Downlinklink) dBm					
No. Tones	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**2100MHz**	**1900MHz**
2	9.50	7.60	10.00	11.70	9.10
3	6.00	4.10	6.50	8.20	5.60
4	3.50	1.60	4.00	5.70	3.10
5	1.60	-0.40	2.00	3.80	1.10
6	0.00	-1.90	0.40	2.20	-0.40
Noise Figure	5 dB nominal				
Isolation	> 90 dB				
Power Requirements	110-240 V AC, 50-60 Hz, 20 W				

Each Signal Booster is individually tested and factory set to ensure FCC compliance. The Signal Booster cannot be adjusted without factory reprogramming or disabling the hardware. The Signal Booster will amplify, but not alter incoming and outgoing signals in order to increase coverage of authorized frequency bands only. If the Signal Booster is not in use for five minutes, it will reduce gain until a signal is detected. If a detected signal is too high in a frequency band, or if the Signal Booster detects an oscillation, the Signal Booster will automatically turn the power off on that band. For a detected oscillation the Signal Booster will automatically resume normal operation after a minimum of 1 minute. After 5 (five) such automatic restarts, any problematic bands are permanently shut off until the Signal Booster has been manually restarted by momentarily removing power from the Signal Booster. Noise power, gain, and linearity are maintained by the Signal Booster's microprocessor.